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River port, *navalia* and harbour temple at Ostia: new results of a DAI-AAR Project

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Since 1996 the German Archaeological Institute and the American Academy in Rome have been conducting a joint urbanism project on the unexcavated parts of Rome's port city.¹ The combined use of geophysical surveys of large areas, systematic analysis of aerial photographs, and selected stratigraphic sondages has not only complemented the previously known plan of the city but also brought much new information on the urbanistic development of previously unknown sectors. One of the most important results of the 2000 and 2001 seasons is the proof that a harbor basin existed just inside the ancient mouth of the Tiber. On the E side of that basin we investigated an unusual structure: a large terraced construction the vaulted substructure of which seems to have served in part as shipsheds and in part as storage and commercial space, and, above, a marble temple, oriented toward the mouth of the Tiber and surrounded by porticos.

The river harbor basin

Because of the geographical conditions at the mouth of the Tiber, from its foundation Ostia was purely a river harbor. As it lacked a natural bay, prior to the construction of Claudian-Trajanic Portus all sea-going ships with deep draft had to put into the mouth of the Tiber and to transfer their Rome-bound cargoes onto shallower river boats. However, even after the construction of the artificial harbor 2 km to the north, there was still extensive trans-shipment of merchandise at Ostia itself. This is shown by the building and economic boom of Ostia in the 2nd c. which brought a massive development of storage and commercial spaces. Intensive shipping operations took place at Ostia at least until the early 3rd c., when a gradual shift of all trade activities toward Portus began and both banks of the river became artificially lined at least as far as the river's first bend. However, until now nothing was known of the ancient shore and harbor installations. Post-antique changes to the course of the river and modern embankments have destroyed large tracts beyond recovery, particularly in the W part of the city. In the E part of the city, some of the ancient arrangement of the shoreline could be recovered during survey work in 2001 in the ancient stretch of the river (north of the Theatre) that had dried up in 1557 ('fiume morto'), although no excavations were undertaken there.

It is fortunate, therefore, that a small part of this original infrastructure, in the form of a river harbor basin situated within the city plan, could be revealed in the NW part of *Regio III*, between the supposed ancient lighthouse ('Tor Boacciana') and the so-called 'Palazzo Imperiale'. As early as the 19th c., the existence of a harbor, or at least of a landing-place with an *emporium*, was suspected here because a trough-shaped depression sloping down to the Tiber distinguishes the area from the rest of the ruins (fig. 3).² However, the idea was not taken up

1 For the previous seasons of the project, cf. M. Heinzelmann, H. Becker, K. Eder and M. Stephani, *RömMitt* 104 (1997) 537 ff.; M. Heinzelmann, *RömMitt* 105 (1998) 425 ff.; A. Bauer, M. Heinzelmann, A. Martin and A. Schaub, *RömMitt* 106 (1999) 289 ff.; A. Bauer and M. Heinzelmann, *JRA* 12 (1999) 342 ff.; A. Bauer, M. Heinzelmann and A. Martin, *RömMitt* 107 (2000) 375 ff.; M. Heinzelmann and A. Martin, *MAAR* 45 (2000) 277 ff.; also see <http://www.dainst.de/de/pro/ostia.html>.

2 L. Canina shows a dip in the surface here and in his plans of 1829 reconstructs a landing-place with an *emporium* (cfr. G. Calza et al., *Scavi di Ostia 1. Topografia generale* [Rome 1953] 50 fig. 12 [C] and 53 fig. 13 [N], although he has no structural remains at all to support it. The idea was taken up again by I. Gismondi in his plaster model of Ostia, in which he reconstructs a landing-place here. How easily, before the erection of the dyke, the conformation of the area could be understood as a possible harbor area is shown by the description (apparently inspired in part by Canina's plan) given by a visitor to Ostia in the late 19th c. as he looked from the 'Palazzo Imperiale' to the west: "Rechts gewahren wir abermals den Tiber und links sehen wir über ein ebenes Feld. In weitem Halbkreis wird es von Ruinen

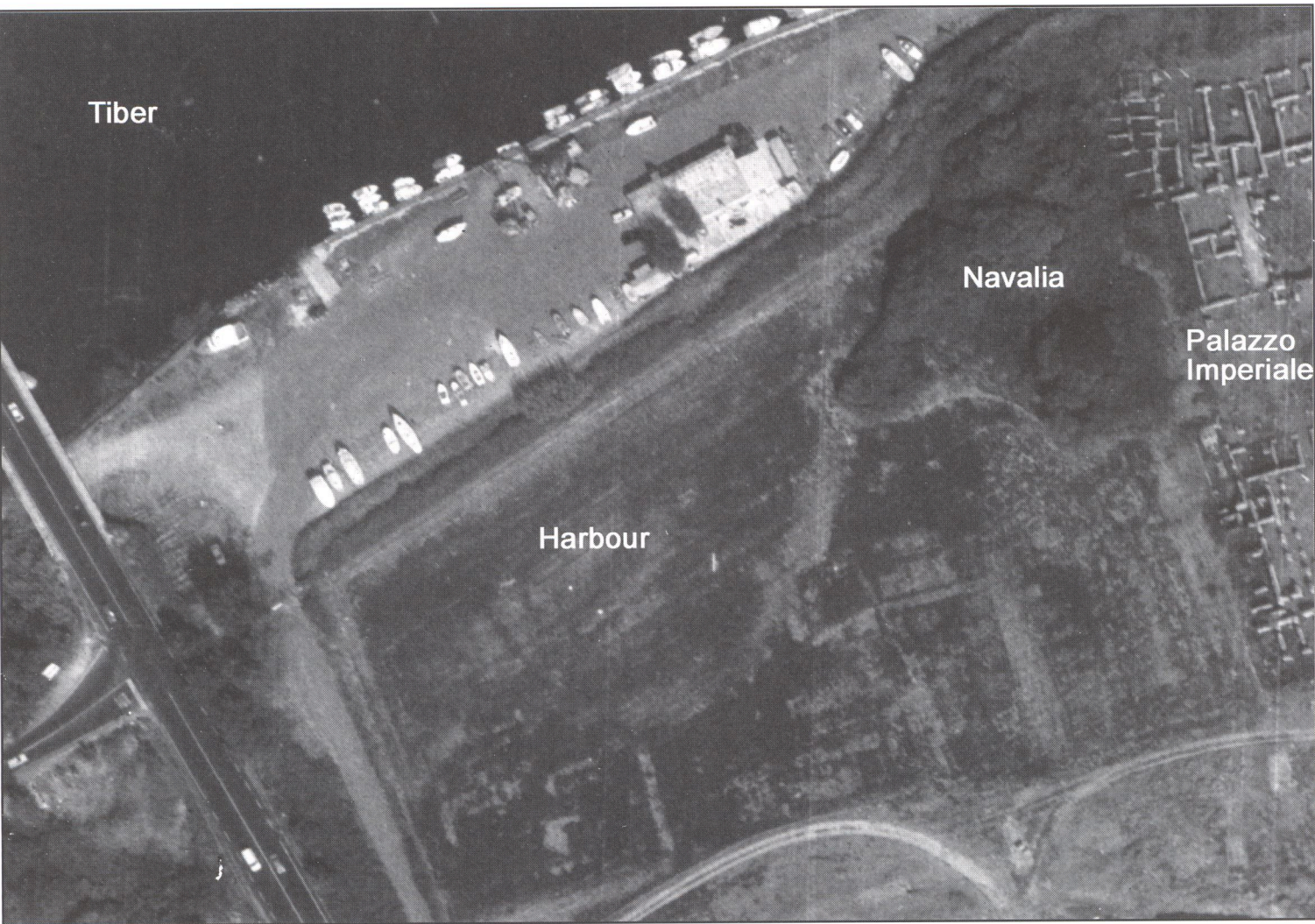


Fig. 1. Ostia, *Regio III*, NW part. Detail of aerial photo (1985). Upper left: Tiber, right: Palazzo Imperiale.

again, and subsequently the dyke built against flooding and the large entrance ramp to the modern bridge over the Tiber obscured the conformation of the area that had been clearly visible. The analysis of aerial photographs (fig. 1) and geophysical surveys (fig. 2) have been decisive for the investigations just carried out. Both sources of evidence showed an abrupt interruption to archaeological structures recognizable to the south and east that corresponds to the depression. Further, the supposed harbor basin is surrounded by a broad, diffuse anomaly which excavation showed not to be an ancient structure but a massive layer of sand covering any ancient structures and extending beyond the original limits of the basin. Finally, the area is differentiated geologically from the surrounding parts of the ancient city in that the depression is filled exclusively with a clayey soil carried in by the river in which ploughing brings to light no ancient material. There was, therefore, no doubt that ancient building was interrupted in the area in question, but it was not clear at first whether this had been caused by post-antique erosion or was due to an artificial harbor that was later filled in. The geological evidence favoured the latter, as the Tiber always ran straight in this stretch and there seemed to be no reason for a shift in its course.³

eingeschlossen, die alle zu einem und demselben, unzweifelhaft höchst bedeutenden Bau gehört haben. Es wird das wohl die ostiensische Rhede gewesen sein, und alles innerhalb ihrer Rundung gelegene Land hat man alsdann für das Altertum sich hinwegzudenken und dafür eine Ausbuchtung des Tiberstromes einzusetzen" (R. Fisch, *Eine Wanderung zu den Truemmern Ostias* [Wissenschaftl. Beil. zum Jahresbericht des Andreas-Realgymnasiums zu Berlin 1898] 19).

³ Information kindly provided by A. Arnoldus-Huyzendveld.

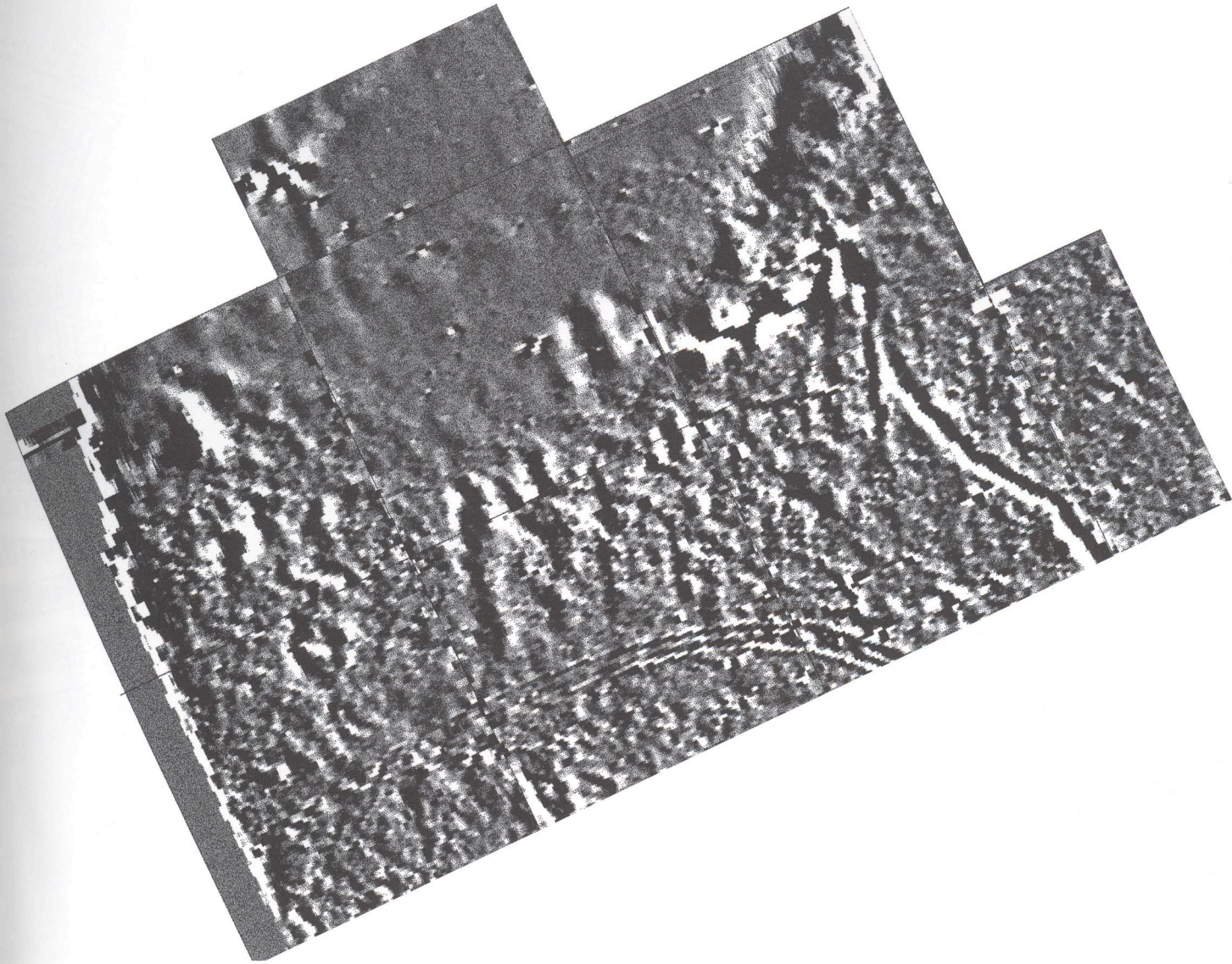


Fig. 2. *Regio III*. Results of geophysical survey (1997) of the same area as shown in fig. 1.

In the 2000-01 seasons three sondages were carried out to investigate this area. The one (21) in the E part of the supposed harbor basin gave particularly important results (fig. 7). It was taken down to present water-level, approximately equivalent to ancient sea-level. Immediately above the water-level the W façade of a large structure was found, which is probably the *navalia* and temple complex described below. For the question of the harbor basin, it is important to note here that the building's façade, consisting of blocks of tuff and travertine, shows traces of weathering that can only have been caused by the action of waves over a long time (fig. 8). There was thus open water on the W side of the building at the time it was in use.

The blocks of the superstructure were systematically robbed in late antiquity or early Middle Ages down to the water-level (c.-0.20 m). A fragment of the same size that had been knocked from its original position came to rest right beside an *in situ* travertine block, on a layer of sand and building debris that filled the entire harbor basin to above the water-level. The components of this fill are well-rounded as a result of breakers rolling in over a long period. Later, further layers of sand, which the geologists describe not as river material but as sea sand that must have penetrated the mouth of the Tiber in various episodes, were deposited over the largely destroyed structure. The surface of the uppermost sand shows traces of roots from beach vegetation, so it must have been exposed to the air for some time. The layers of soil above that



Fig. 3. *Regio III*. Model of elevations on the basis of aerial photographs.

were created by erosion of the slopes to the east and by post-antique flooding of the Tiber in the lower part of the basin.

It was intended to investigate the S side of the basin in another sondage (32), but this area proved to be much more heavily eroded by the post-antique actions of the river than the better protected E side. All the structures there were destroyed down to the water-level. Only some basalt paving slabs were found in the fill layer of the basin, where they must have fallen after being washed out of their original position.

The S limit of the harbor basin is suggested indirectly, however, by a discovery in another sondage (29) at a short distance south of the above-mentioned sondage 21. A street coming from the Via della Foce to the south makes a sharp bend to the west in the area of our sondage, evidently taking the *navalia* complex into account. After this bend the street must have continued straight to the west, constituting the S limit of the harbor basin.⁴ The magnetometry

⁴ Beneath the street there was a large drain the bottom of which slopes down from the south to the north, i.e. in the direction of the Tiber. It was filled with the same material as the harbor basin and evidently was in direct contact with it. It appears therefore that this drain carried some of the waste water from *Regio III* to the river basin.

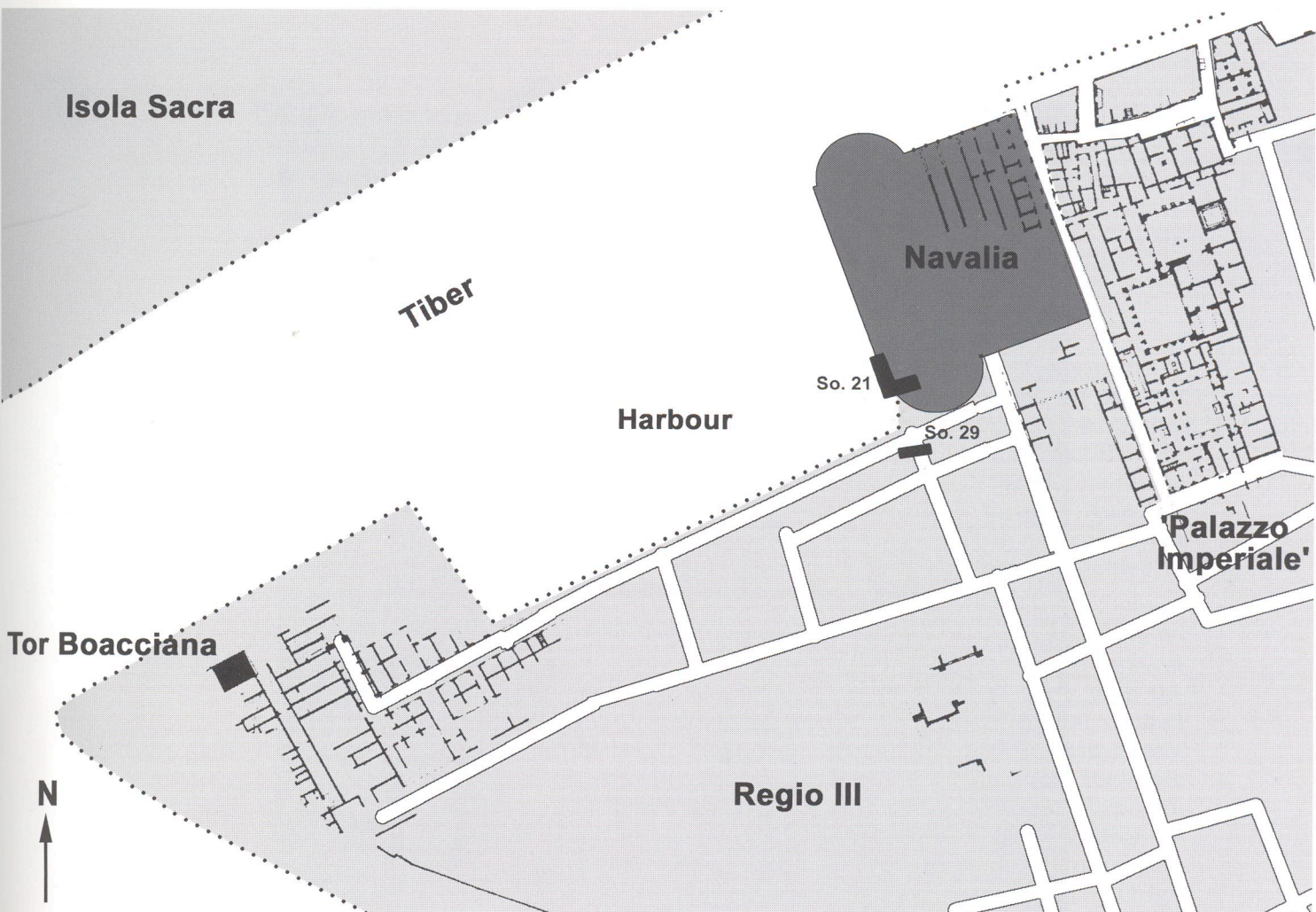


Fig. 4. *Regio III*. Reconstructed plan on the basis of aerial photographs and geophysical survey.

study of the area (1997) showed an anomaly running E–W that is aligned precisely with this street (fig. 2). If the identification of the S limit of the harbor basin with this street is right, it would form an obtuse angle with the façade of the complex at the east (fig. 4). The basin would have had a slightly trapezoidal form. Its depth cutting into the Tiber bank would amount to c.100 m. Its W limit cannot be determined at present, but presumably it is somewhere just west of the modern ramp to the bridge, which would give the basin a width of c.160–180 m.

Navalia and temple terrace

The structure touched by our sondage on the E side of the harbor basin is the SW corner of a much larger complex (surface area c.70 x 70 m) that occupies the entire area between the harbor basin and the so-called 'Palazzo Imperiale'. It is a large built terrace that rises on a substructure with numerous vaults and has a large temple at the center (fig. 5). Part of the N side of the terrace was exposed in the 19th c. but those heavily overgrown remains have lain undocumented with their function debated.⁵ In 2000 and 2001 these structures were cleaned, documented in detail, and supplemented by sondages on the S side and in the middle, so that the feature can be reconstructed to a considerable extent.

5 C. L. Visconti, *AdI* 1857, 337 ff.; R. A. Lanciani, *AdI* 1868, 148. Cfr. also L. Paschetto, *Ostia. Colonia romana* (1912) 346 ff. Photographs showing the remains in better condition may be found, for example, in *Il Lazio di Thomas Ashby 1891-1930*, vol. I (BSR Archive 4, 1994) 121 f., fig. 27.75; J. Carcopino, *MEFRA* 31 (1911) 214 ff. with figs. 1-2.

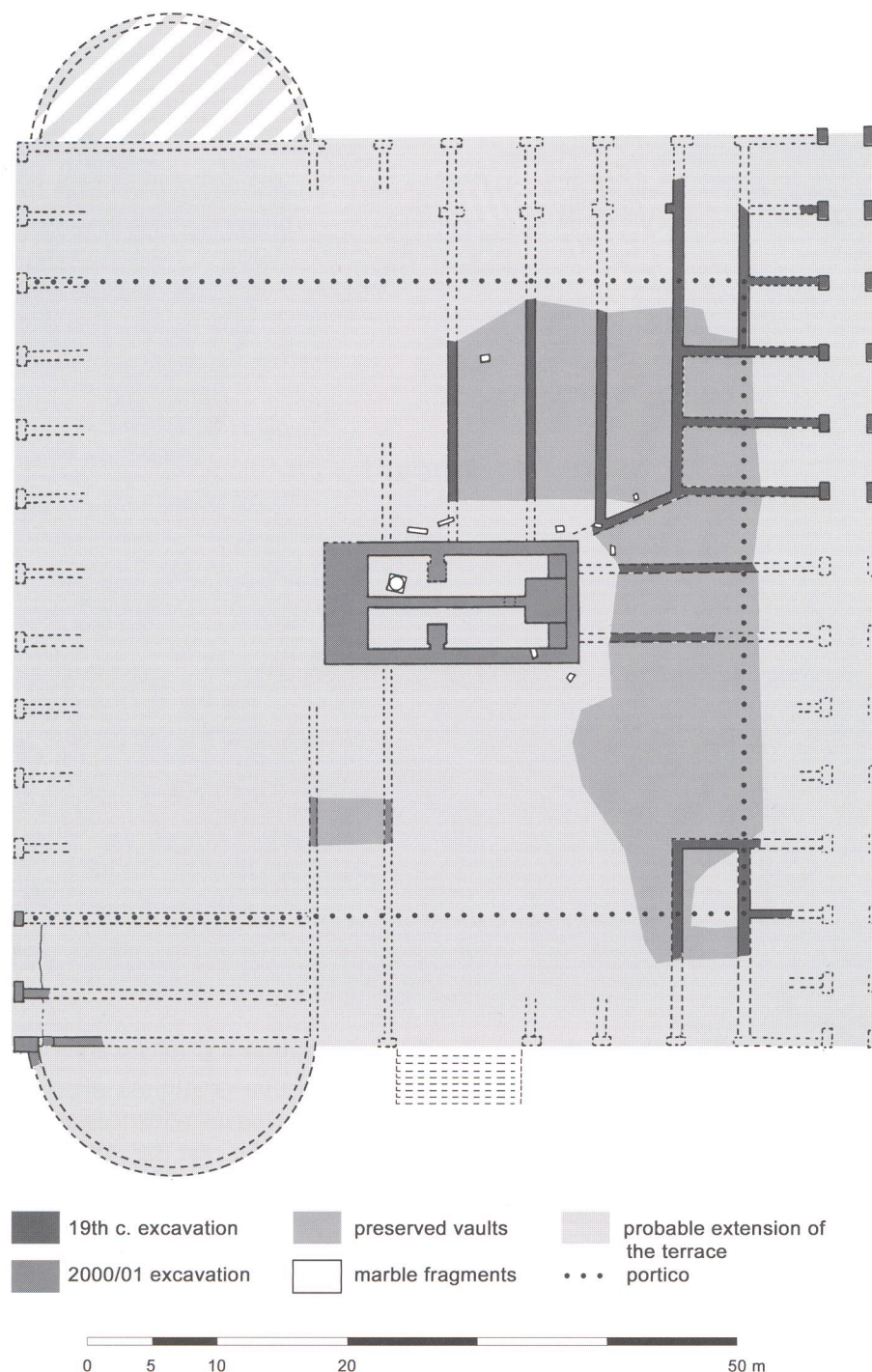


Fig. 5. Navalía-temple complex, reconstructed plan using data from the old excavations and the *sondages* of 2000-01.

The parts exposed by P. E. and C. L. Visconti in the mid-19th c. consist essentially of numerous parallel vaulted chambers facing east toward a road running along the 'Palazzo Imperiale' or facing north toward the Tiber. All the chambers are formed of relatively thin walls built in a homogeneous *opus mixtum* and of vaults in *opus caementicium* spanning them. Their span is c.5 m but their length varies according to their position: the chambers facing east (toward the street) are shorter and end in broad tuff arches, the pillars and springings of which are preserved (fig. 6). In front of them are the brick pillars of a *porticus* (c.3 m wide) belonging to a later restoration. The preserved thresholds show that these eastern chambers served as *tabernae*, at least after the 2nd-c. restoration. The vaulted chambers toward the Tiber are decidedly deeper

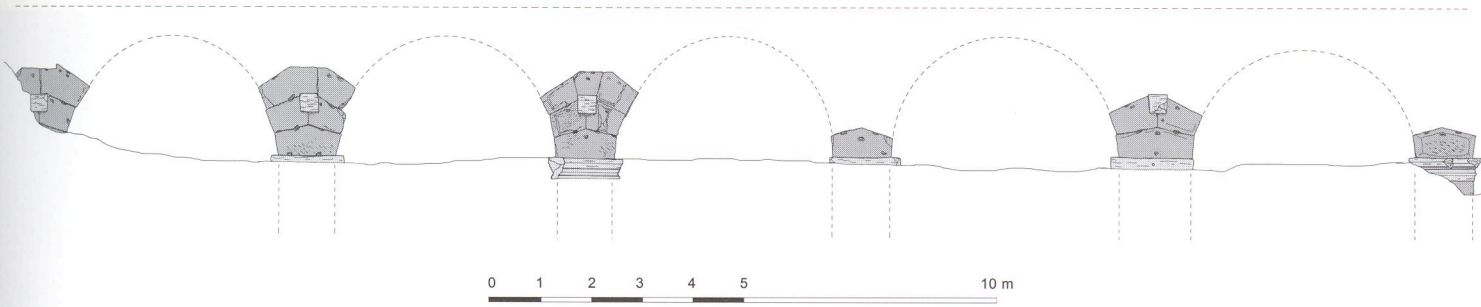


Fig. 6. Pillars on the E side of the *Navalia*-temple terrace.

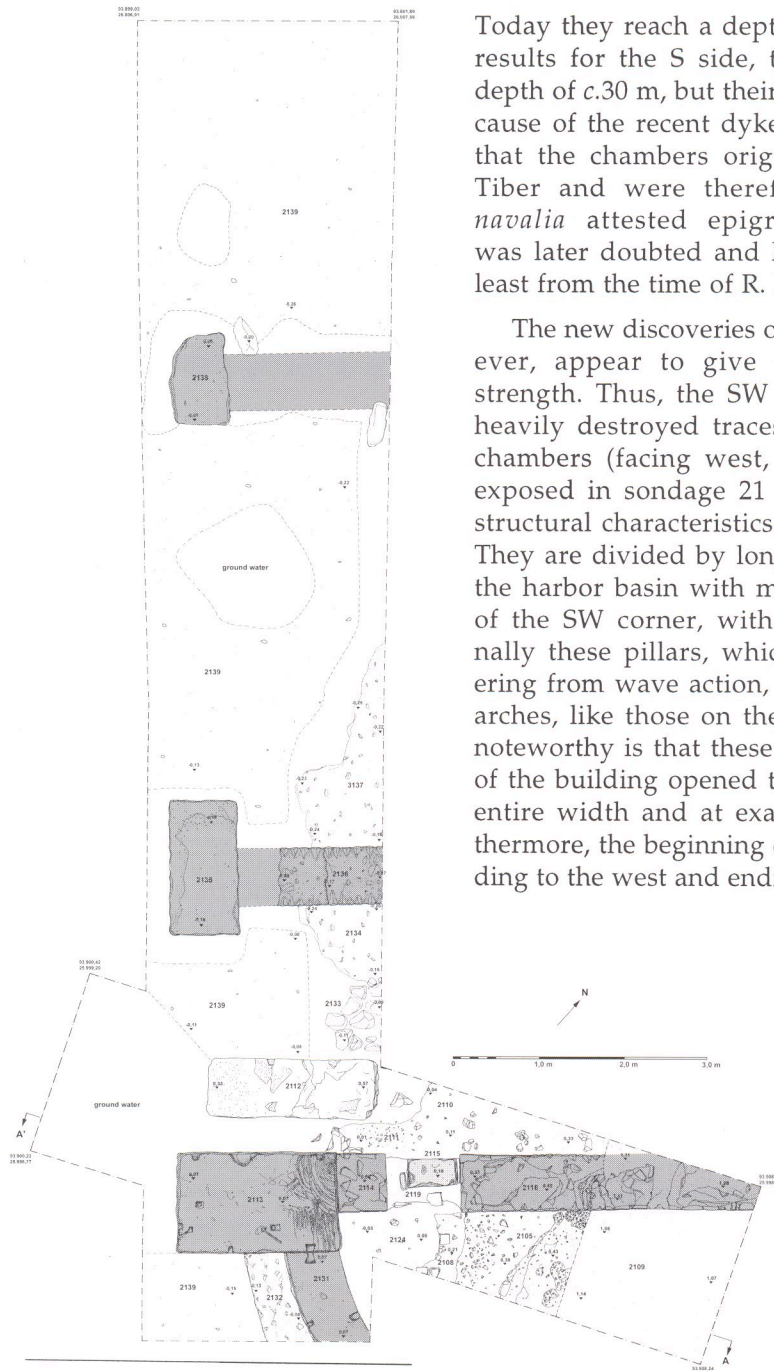


Fig. 7. *Navalia*-temple complex, Trench 21, plan with the SW corner of the building, beginning of an apse, and entrance to 3 ship-sheds.

Today they reach a depth of c.20 m; by analogy with the results for the S side, they must have had an original depth of c.30 m, but their N end is no longer preserved because of the recent dyke. The 19th-c. excavators thought that the chambers originally opened directly onto the Tiber and were therefore to be identified with the *navalia* attested epigraphically.⁶ This interpretation was later doubted and has been considered outdated at least from the time of R. Meiggs.⁷

The new discoveries on the S side of the structure, however, appear to give this old interpretation greater strength. Thus, the SW corner of the building with the heavily destroyed traces of three more parallel vaulted chambers (facing west, toward the harbor basin) were exposed in sondage 21 (figs. 7-8). They show the same structural characteristics as the parts previously exposed. They are divided by long, narrow walls and terminate at the harbor basin with massive tuff pillars or, in the case of the SW corner, with a large travertine pillar. Originally these pillars, which show strong traces of weathering from wave action, were probably covered by broad arches, like those on the E side of the building. What is noteworthy is that these vaulted chambers on the W side of the building opened toward the harbor basin along its entire width and at exactly the level of the water. Furthermore, the beginning of a ramp in *caementicium* descending to the west and ending at the water of the river basin

6 C. L. Visconti, *AdI* 1857, 337 f.; R. Lanciani, *AdI* 1868, 148. Paschetto 346 ff. accepts this interpretation.

7 Cfr. R. Meiggs, *Roman Ostia* (2nd edn., Oxford 1973) 126; already critical: T. Ashby, *JRS* 2 (1912) 188 f.



Fig. 8. Trench 21, detail of the SW corner block, with traces of weathering from wave-action.

was found inside the second chamber counting from the south. These features could hardly be explained if the chambers served merely as a substructure for the terrace above; it seems rather that at least the chambers on the W side were destined to receive ships. Their width of *c.* 5 m and their maximum height of *c.* 4.5 m appears to be unsuitable for larger sea-going ships. It can be imagined, however, that they accommodated small warships responsible for protecting the mouth of the Tiber, the presence of which at Ostia is attested epigraphically.⁸ In all, 12 parallel chambers can be reconstructed along the 70-m width of the W front of the building.



In further investigations, the remains of other vaulted chambers were found, facing inland toward the south, in a mirror image to the situation on the N side. This shows that the vaulted substructure of the terrace is completely symmetrical along the longitudinal axis of the temple placed in the middle (see below). With regard to the overall planning of the complex, it is noteworthy that the vaulted chambers on the W side facing the harbor basin were given the most space, while the N and S sides were left with a lesser number of chambers or had a lesser depth because of the treatment of the corners. Evidently there was a concern to obtain the greatest possible surface area and depth for the chambers on the W and N sides, which is a further indication of a particular utilization of those spaces which were oriented toward the harbor and the Tiber.

The building is noteworthy in yet another way. In the remains exposed in the 19th c., L. Paschetto had correctly noted that the vaults over the supposed shipsheds were covered only by a layer *c.* 15 cm thick of permeable mortar, above which there is a floor of *opus spicatum* (fig. 9). The relatively slight thicknesses of the walls and vaults of the substructures are a clear indication that the building did not continue above to further storeys but formed a terrace at a height of *c.* 4.20 m (i.e., *c.* 4.5–5.0 m above ancient sea-level), as Paschetto reconstructs it.⁹ In a re-investigation of the vaults exposed in the 19th c., in the SE corner it was observed that the

⁸ Cfr. Meiggs *ibid.* 304.

⁹ Cfr. Paschetto (*supra* n.5) 346 ff. with fig. 97. However, the canal reconstructed there penetrating inland is actually a street onto which a row of *tabernae* opened; likewise there is no evidence for the monumental staircase supposed by Paschetto. Instead, Paschetto's reconstruction should be completed by the river harbor basin and the shipsheds oriented toward it.

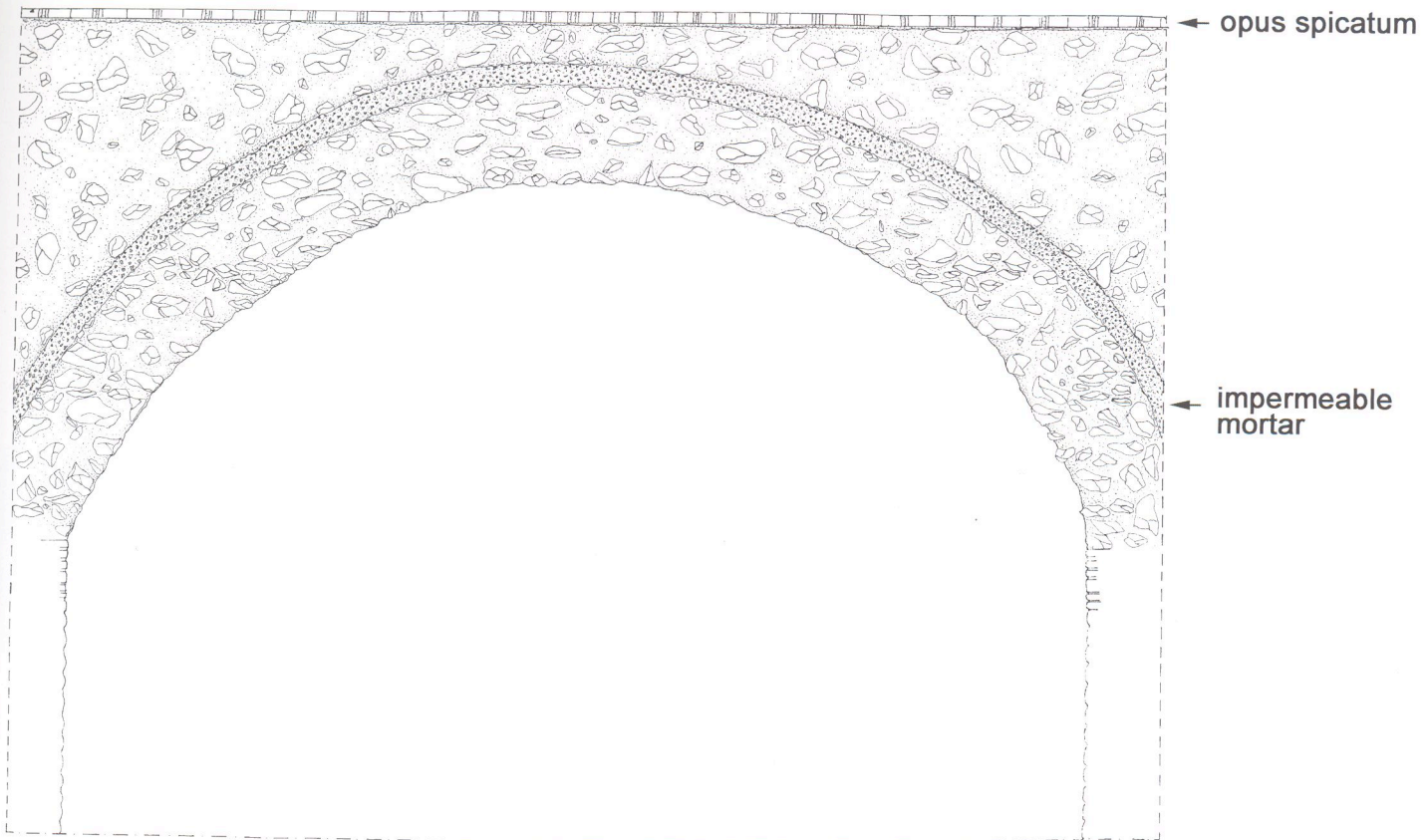


Fig. 9. *Navalia*-temple terrace, section through a vault on the N side.

opus spicatum floor breaks off with a straight edge at a distance of c.6 m from the outer edge. Corresponding to it the impermeable plaster that protects the vaults below from the penetration of rainwater also breaks off. This implies that the outer sides of the terrace must have been roofed in some way. In cleaning the old excavations on the E side, various fragments of columns and entablatures were found that do not belong either to the central temple or to the nearby 'Palazzo Imperiale'.¹⁰ It is much more likely that these fragments belong to a *porticus* built around the edges of the terrace. Since the temple was oriented with its façade facing west toward the harbor (see below), one may suppose that the west side remained an open façade to the whole installation and that the design would have been that of a *porticus* triplex.

Finally, another structural particularity is worth noting. In sondage 21 at the SW corner of the complex, the beginning of a curved wall of large tuff blocks running south was discovered. Bonded to the travertine block of the SW corner by means of large swallowtail-shaped dowels, it undoubtedly belongs to the original installation. Although only this short stretch of the wall has been exposed, it seems possible that a semicircular apse joined the outer S side of the building. To judge by the curvature of the exposed masonry block, the apse had a radius of c.10-11 m, that is, a diameter of c.20-22 m. This would correspond exactly to a 'blind zone' due to the depth of the chambers set on the corner of the terrace.¹¹ Inside the apse, there was a closed room that communicated with the southernmost vaulted chamber through a small door. The remains of various floor levels and a later renovation point to continuous utilization. It is still

¹⁰ These are two fragments of gray marble columns with smooth shafts and two entablature blocks of Luni marble. The entablature blocks are too small for the considerably larger proportions of the temple. Furthermore, one of the blocks with a dentil frieze comes from an interior angle and does not fit into a reconstruction of the architecture of the temple.

¹¹ Another possible indirect confirmation that there was a marked projecting element on this side of the terrace comes from the supposed street limiting the S side of the harbor that bends to the west at a distance of c.12 m from the terrace.

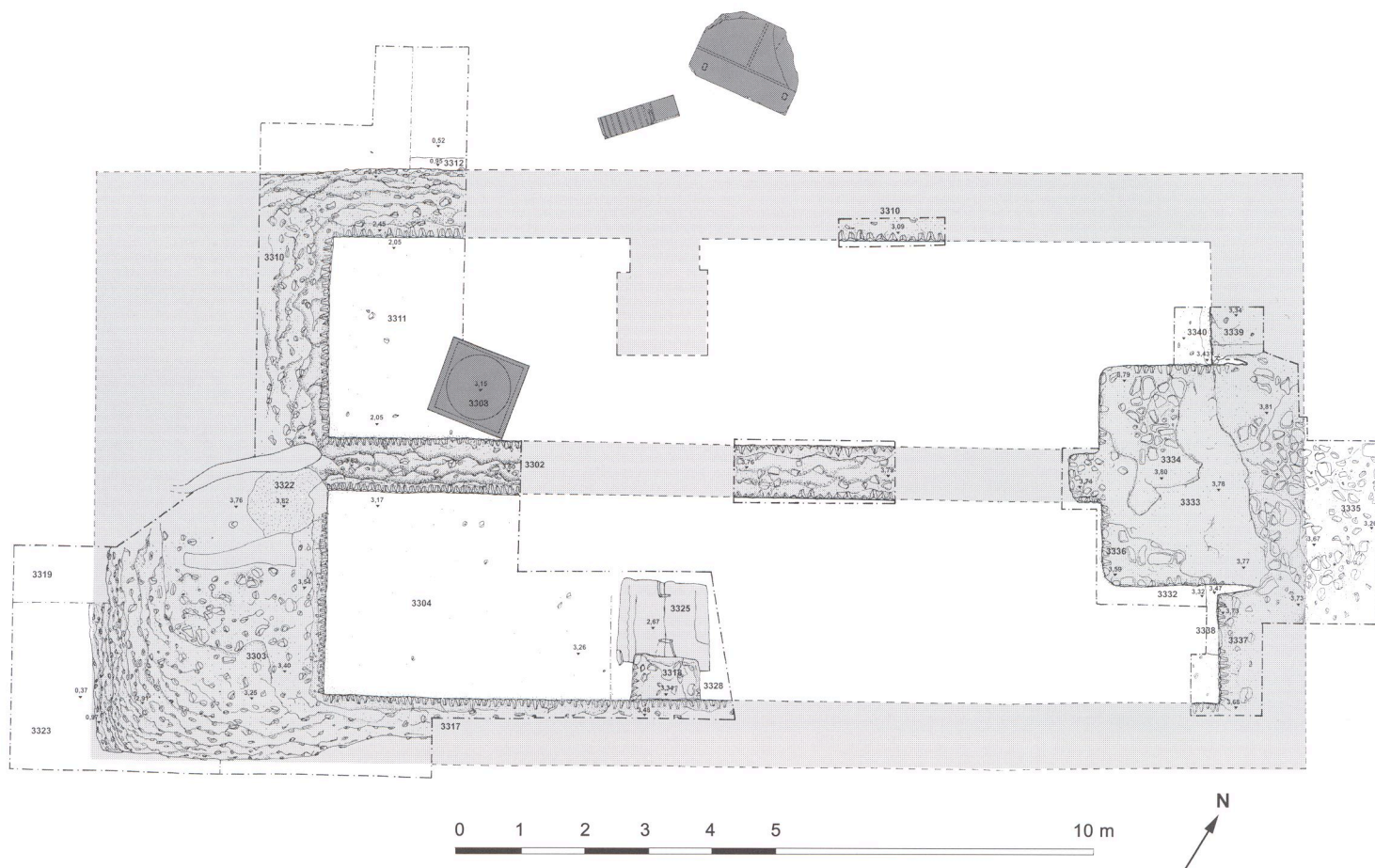


Fig. 10. *Navalia*-temple complex, sondage 33, plan of temple.

an open question what sort of communication there was with the supposed apse on the terrace level above, but it is probable that its whole width opened onto the *porticus*. (Because of the otherwise symmetrical arrangement of the whole complex, it is likely that there was a second apse on the N side, but the modern dyke prevents any checking of this sector.)

It was impossible to investigate the original entrance to the terrace. Probably it lay in the middle of the S side. On an aerial photograph taken in 1985 (fig. 1) a wide street can be seen running from the city gate (now attested in 2000 in the south part of *Regio III*) exactly on the N-S axis of the sanctuary complex. Presumably a free-standing staircase in front could have led from the street level to the terrace above.

The harbor temple

The foundations of a podium temple were discovered in 2001 exactly in the centre of the terrace (fig. 10).¹² They give a rectangle of 19.5 x 9.5 m, oriented E-W. They were cast in a homogeneous mix of *caementicium*, pieces of tuff, and re-used *reticulatum*. The uppermost-preserved parts of the foundations reach c.3.6 m above sea level and so lie about 0.5 m below the level of the original floor of the surrounding terrace. In two places, in the SW corner and on the N side, they could be traced to just above the water-level; presumably they extend much deeper. The outside exterior parts of the foundations were unfaced or have had their facing robbed but the interior walls of the podium have *opus reticulatum* facing. A *reticulatum* wall running along the longitudinal axis of the podium divides its interior into two parallel rectangular chambers that were originally vaulted, to judge by numerous fragments of *caementicium*

¹² The work carried out was hindered by heavy brush and consisted almost entirely of surface cleaning. It could be established that at least part of the foundations of the temple must have been exposed in the 19th c. Others were covered by spoil from those excavations or by recent rubbish.

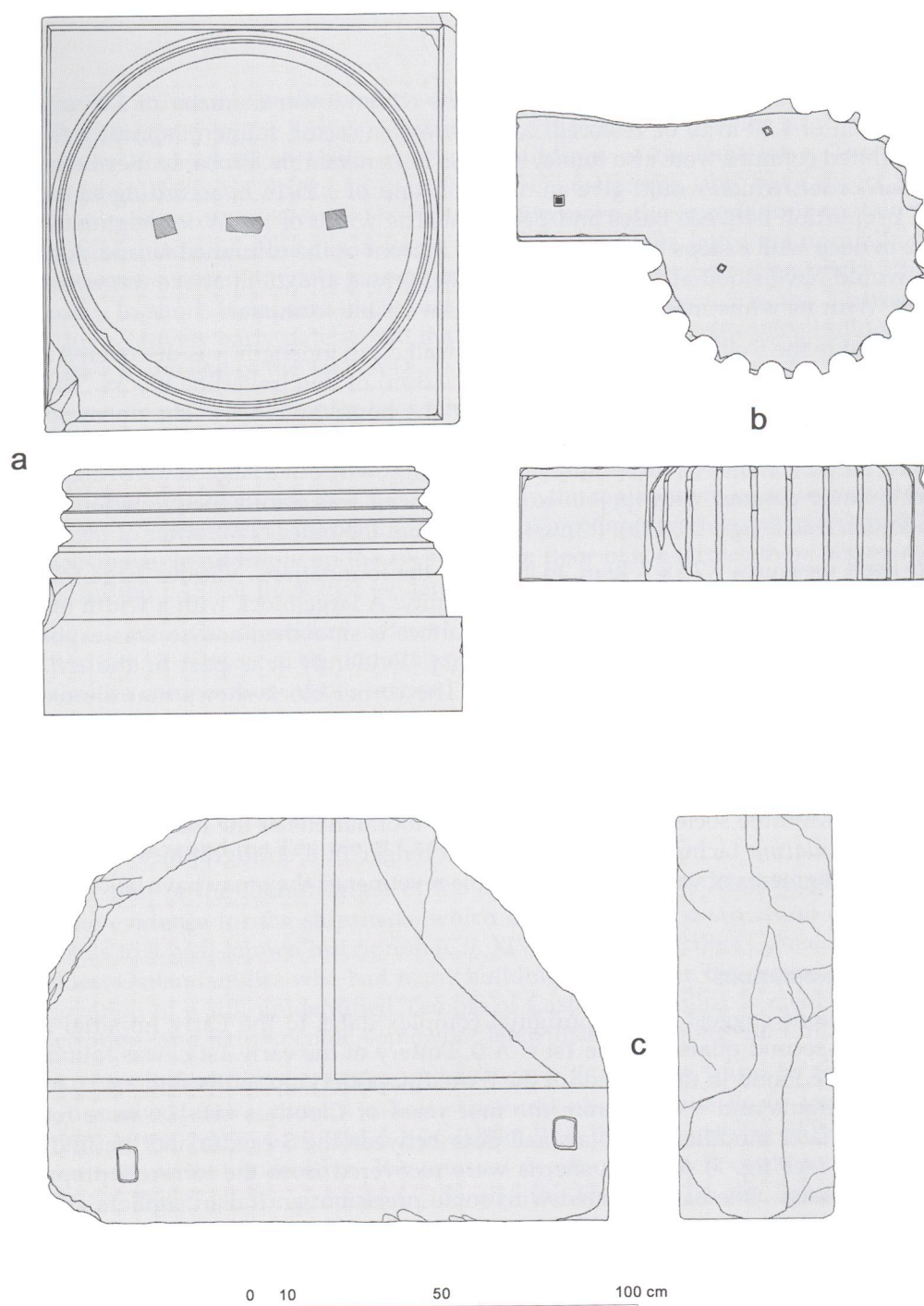


Fig. 11. Building elements of the temple in Luni marble: a) Base of a façade column; b) fluted corner column of the *cella*; c) block of the exterior wall of the *cella*.

ticium vault fragments found. They may have inter-communicated through a door at the east. It would seem that both longitudinal chambers were accessible in some manner, but no indication of a door was found in the exposed part of the external foundations. If one restores the chambers with curving vaults, the top of the podium can be reconstructed at c.6 m above ground level and so c.2 m above the level of the terrace.

While the two long walls of the foundations and the rear, to the east, have a thickness of c.1.00 m, the foundation of the W side is particularly massive, 3.20 m — an indication that the façade of the temple faced the former mouth of the Tiber and the harbor basin. Directly on the inside of this broad façade foundation there is a large column base of Luni marble (figs. 10, 11a).

Its proportions allow an original façade of 4 columns with a lower diameter of 1.05 m and an intercolumniation of 1.80 m to be restored. In this western sector, numerous mostly fist-sized fragments of fluted columns were also found, likewise of Luni marble. Probably they belonged to the Corinthian order, which would give an overall height of c.15-16 m according to the usual schemes of proportion between bases and pediment. The width of the W foundation allows a staircase c.2 m deep with 8 steps to be reconstructed in front of the columned façade. Altogether the temple would have stood at least 18 m above the terrace and 23 m above the water in the harbor basin. With its white marble it must have been visible from afar.

At a point inside the S chamber of the podium, a wall c.2 m in length was discovered making a right angle and ending in a massive setting (1.2 x 1.3 m) of two travertine blocks. This is the foundation of the W wall of the *cella*, or rather for the doorway blocks. The doorway had a width of c.3.2 m and the pronaos a depth of 4.8 m. It was impossible to investigate the corresponding section on the N side because of the undergrowth, but a large marble fragment of a fluted three-quarter column with its join to the *cella* wall was found there, evidently in the position in which it fell (figs. 10, 11b). It must derive from the outer NW corner of the *cella*.

The *cella* itself measures 9.20 x 7.40 m, to judge by the foundations. Various large fragments of Luni marble from the elevation survive in the vicinity. A large block with a width of 0.43 m is particularly worthy of note (fig. 11c). Its inner surface is smoothed and so was exposed; its outside shows monumental pseudo-ashlar masonry. Evidently it is part of the *cella* wall, which must have been of massive marble blocks. The corner block shows that the wall was articulated externally by projecting half- and three-quarter columns.

Inside the *cella* in the centre it was possible to expose the E (rear) side of the main socle, which is unusually large at c.3.5 x 3.2 m. On each side were the foundations of a smaller pedestal, 1.20 m lower. All three socles are bonded with the foundations of the temple and show the same kind of *reticulatum* facing. In the area but no longer in a stratigraphical context were found numerous fragments of various sorts of marble revetments; they may have belonged to the facing of the socle.

Dating and later restorations

Various indications suggest that the original complex dates to the Early Imperial period, presumably in the second quarter of the 1st c. A.D. Pottery of the early 1st c. was found in the earliest layers of use found in the interior of the S exedra: pottery up to the mid 1st c., together with a coin of Caligula and 4 coins from the first years of Claudius (41-42), were found in association with a later modification to a small door between the S exedra and the first chamber in sondage 21 (see fig. 7). Various sherds were recovered from the terrace's preparatory layer of the first phase. One can be dated with some precision: an Italian sigillata rim sherd *Conspectus* 3.1, the production of which began toward the middle of the 1st c. A.D.¹³ Most of the rest of the material, including amphora body sherds with Vesuvian black sand, Baetican fabrics, and sherds of micaceous one-handled jars from Asia Minor, are consonant with a date toward the middle of the 1st c.

The temple itself shows a remarkable similarity to the Temple of Roma and Augustus in the Forum at Ostia which was probably built under Tiberius. The similarity concerns not only the size, individual measurements and external articulation of the *cella*, but especially the almost identical forms of the bases of the two temples.¹⁴ The similarities are so great that one may suppose that both temples were erected at about the same time.

13 *Conspectus* p. 56.

14 The two Corinthian temples are of approximately the same size; the diameter of the columns in the façades and the external articulation of the *cellae* with projecting fluted half- and three-quarter columns is practically identical. It is particularly striking that the base of the façade column described above

The use of Luni marble in the temple excludes a pre-Augustan date. This is confirmed by the *opus mixtum* masonry in the terrace substructure which uses unusually large, tuff *reticulatum* pieces, of the kind found at Ostia mostly in buildings of the mid-1st c. The short, thick, coarsely joined, dark-red bricks are particularly characteristic, and have direct parallels in the Claudian phases of the 'Grandi Horrea'.¹⁵ Furthermore, the foundations contain numerous re-used *reticulatum* pieces but not a single brick fragment. The latter are normally present in *opus caementicium* in buildings beginning in the Domitianic period, when bricks started to be widely used. In short, it appears likely that the building was erected in the Tiberian-Claudian period. This relatively early date would make it one of the most expensive building initiatives at Ostia prior to the end of the 1st c. A.D.

At various points in the complex later renovations or modifications can be detected. On the E side of the terrace during the 2nd or early 3rd c., to judge by their masonry, a series of massive brick pillars was installed c.3 m in front of the tuff pillars of the older phase. However, it remains unclear at present whether this was merely the replacement of an older construction in need of repair or whether it marks the addition of a pillared *porticus* to carry an extension of the terrace above. In addition, on the *opus spicatum* floor of the terrace there are many traces of a layer of mortar c.15 cm thick that evidently constitutes the preparation for a later floor.

Finally, a massive, secondary *caementicium* fill was found inside the N chamber of the temple podium. It reinforced the foundations up to a height of c.2.0 m above the ground level. Unlike the the composition of the original foundation, it contains a high proportion of brick and marble fragments. Two coins of Marcus Aurelius or Caracalla were discovered embedded in the surface of this *caementicium* reinforcement.

On the identification of the *navalia*-temple complex:

P. Lucilius Gamala and the Temple of Castor and Pollux?

The question of the identification of the building complex is closely related to that of its dating. The evidence for the shipsheds, which obviously form a structural unit with the temple, leads us to a well-known inscription (CIL XIV 376) of P. Lucilius Gamala, a member of one of the oldest Ostian families who had many buildings restored in the second half of the 2nd c.¹⁶ The renovation of a still-unidentified Temple of Castor and Pollux is mentioned first (l.13) in this inscription, and *navalia* come somewhat later (ll.25-27) among the utilitarian buildings.

The archaeological discovery corresponds well with the clues given by this inscription. The *navalia* described above present a first structural phase in the Early Imperial period and restorations of the 2nd or early 3rd c. throughout. It is the unusual size of the foundation socle for the cult-statue that is decisive. The unusual depth of the socle could indicate a cult group with horses. Therefore we propose to identify the temple with the temple of the Dioscuri mentioned in the inscription. The identification of this sanctuary with the temple of Castor and Pollux also appears logical because of the traditional connection of both divinities to sailing, while the close relationship of the temple with ships is obvious from its structural connec-

shows the same details in form as the bases of the Temple of Roma and Augustus and differs only slightly in its proportions. In both cases marble from Luni was used exclusively; the massive realization of the *cella* walls in marble of 2nd-c. temples at Ostia does not appear in other 2nd-c. temples; usually they are faced only with thin panels.

¹⁵ Cfr. Calza *et al.* (supra n.2) pl. 50.3.

¹⁶ The dating of the inscription is still debated. It was produced most probably in the period after A.D. 171 or 176. Cfr., for example, Meiggs (supra n.7) 493 ff.; M. F. Petracchia Luceroni, *I questori municipali dell'Italia antica* (Rome 1988) 27 Nr. 12; G. Mennella, *Quaderni catanesi di cultura classica e medievale* 3 (1991) 160 ff.; M. Fora, *Epigrafia anfiteatrale dell'Occidente romano IV, Regio Italiae*. Vol. I: *Latium* (Rome 1996) 62 ff., Nr. 28.

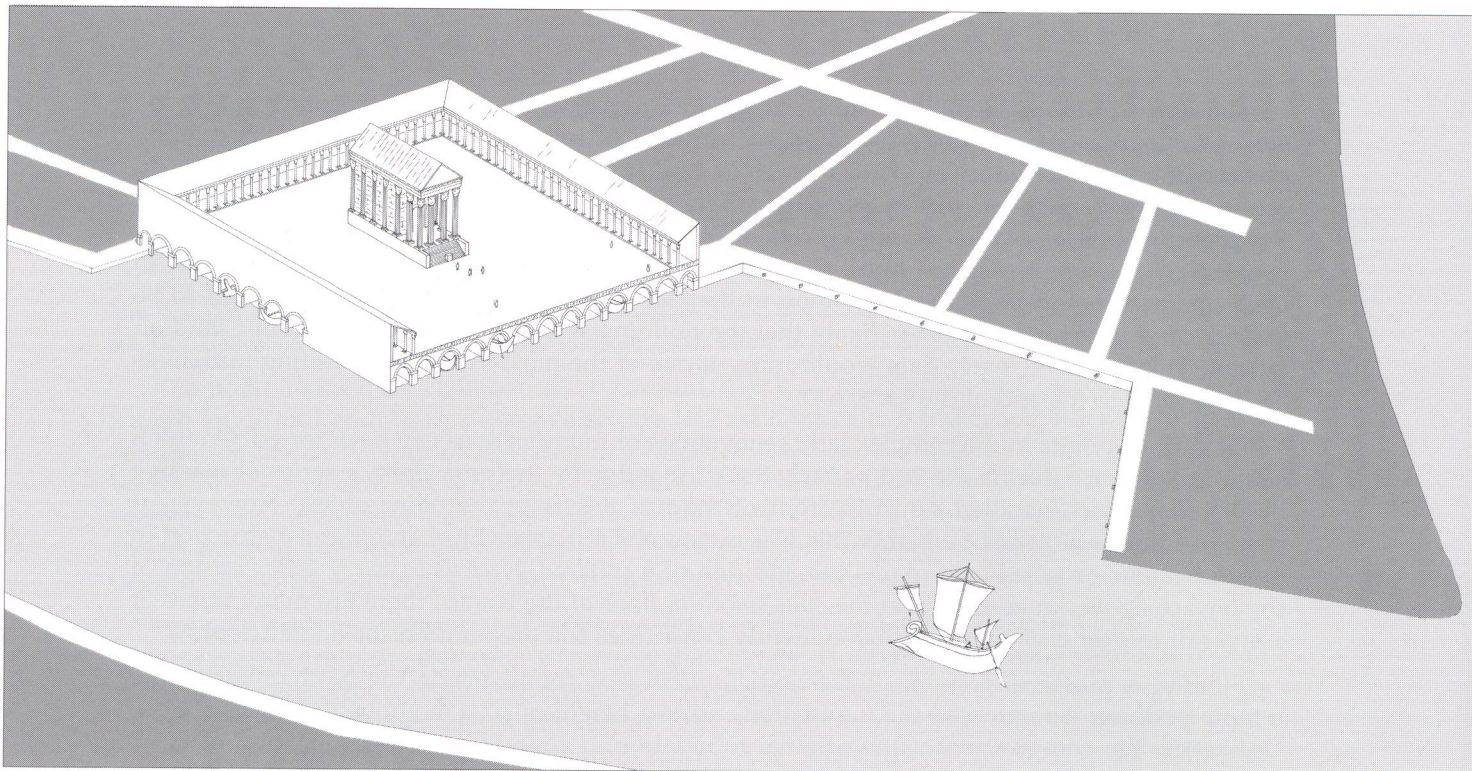


Fig. 12. *Navalia*-temple complex, tentative reconstruction.

tion with the *navalia*, its dominant position above the harbor basin, and its orientation toward the mouth of the Tiber and all incoming shipping (figs. 4, 12).

The temple of Castor and Pollus was the most important local cult-place after the temple to Vulcan (not yet securely identified) and it stood in the closest relationship to Rome.¹⁷ Here annually sacrifices were made and *ludi Castorum* held under the direction of a praetor or a consul on January 27, the date of the dedication of the Temple of Castor and Pollux in Rome itself. The importance of the cult continued into late antiquity. Ammianus Marcellinus (19.10.4) reports that in 359, at a time of imminent famine, the urban praefect Tertullus went to the temple of the Dioscuri at Ostia in order to carry out sacrifices to change the unfavorable winds that were preventing the grain fleet from coming in. Later still, in a source of the 5th c., we read:

[...] Ostiam civitatem, ubi populus Romanus cum urbis praefecto vel consule Castorum celebrandorum causa egreditur sollemnitatem iocunda.¹⁸

It is impossible to establish with certainty when the building was abandoned and destroyed. The numerous fragments of columns broken into tiny pieces, found particularly in the area of the temple façade, could point to a deliberate destruction of the marble to burn it for lime. On the other hand, its position close to the river would have made it an ideal source of stone for raids of the Pisan and Amalfitan fleets, attested in mediaeval sources, when they were gathering columns and marble pieces for the construction of their cathedrals.

Conclusions

The demonstration of the existence of a river harbor basin and a *navalia* and sanctuary complex adds an important element to our knowledge of the city of Ostia. The discovery gains added importance from the relatively early (Tiberian–Claudian) date of the original installation. Indeed, the *navalia*-temple complex was one of the largest and costliest building projects

¹⁷ For this and what follows cfr. Meiggs (supra n.7) 343 ff.; L. Ross Taylor, *The cults of Ostia* (Bryn Mawr 1912) 22 ff.

¹⁸ *Cosmographia* (Aethicus): A. Riese, *Geographi Latini minores* (Heilbronn 1878) p. 83, l. 25 (ll. 22–24).

carried out in Ostia before the end of the 1st c. A.D. It belongs to the series of urbanistic measures carried out from the time of Augustus onwards that were aimed at giving new urbanistic impulses to the settlement which was growing unsystematically beyond the old *castrum* walls and still remained under-developed with respect to its public infrastructure. The donation by Agrippa of the theater with its *porticus* to the north, the construction of an aqueduct and the first baths, and the creation of the southern forum square with its newly-built temple of Roma and Augustus were the first to provide urban qualities suited to Ostia's size and pretensions. The sanctuary complex discussed above stands out from those new projects that were meant principally to serve the inhabitants of Ostia by virtue of its monumentality and the significant expense of a purely marble temple but also by virtue of its prominent position at the harbor basin and its orientation toward the Tiber mouth. This sanctuary complex was designed to face outward: it was the first feature to be seen by incoming shipping. Because of this, it is not unlikely that there was an imperial participation in its construction.

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